



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,406	02/07/2002	Alan M. Franzenburg	10018014-1	1660

7590 05/03/2005

HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER	
NGUYEN, MINH CHAU	
ART UNIT	PAPER NUMBER
2145	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/071,406

Applicant(s)

FRANZENBURG, ALAN M.

Examiner

MINH-CHAU N. NGUYEN

Art Unit

2145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 02/07/02.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claim 13 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
2. Regarding claim 13, Applicant claims "a portion of the parity data that is inversely proportional in size" is lacked in the written description.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4,6-9,12,14-20,25 are rejected under 35 U.S.C. 102(e) as being anticipated by Goddard (US 6,883,110 B1).

4. Regarding claim 1, Goddard teaches a device for storing distributed data in a networked storage array, comprising:

a mass storage controller associated with a network (ex. a controller in the server or maybe a proprietary service is provided by an application over the network) (Col. 3, L. 42-65; and Col. 4, L. 19-67; and Col. 6, L. 59-67; and Col. 7, L. 41-55);

a mass storage device that is controlled by the mass storage controller, wherein the mass storage device includes a portion of the distributed data (ex. a mass storage device is the server application storage 212) (Col. 3, L. 42-65; and Col. 4, L. 19-67; and Col. 5, L. 34 - Col.6, L.2; and L. 59-67; and Col. 7, L. 41-55); and

a plurality of client systems, having client mass storage, that each store a portion of the distributed data in a distributed storage file on the client mass storage, as directed by the mass storage controller, wherein the client mass storage is used primarily for the client system's data (Col. 3, L. 42-65; and Col. 4, L. 19-67; and Col. 5, L. 34 – Col. 6, L.12; and L. 59-67; and Col. 7, L. 41-55).

5. Regarding claim 2, Goddard teaches a device as in claim 1, wherein the client systems store striped data in the distributed storage file of the client mass storage, where the data is a mirror of distributed data stored on the mass storage device controlled by the mass storage controller (Col. 4, L. 19-67; and Col. 5, L. 34 – Col. 6, L. 12; and L. 59-67; and figure 2).

6. Regarding claim 3, Goddard teaches a device as in claim 1, further comprising a network that is coupled between the client systems and the mass storage controller to transfer distributed data between the client systems and the mass storage controller (Col. 4, L. 19-67; and Col. 5, L. 34 – Col. 6, L. 12; and L. 59-67; and Col. 7, L. 41-55; and figure 2).
7. Regarding claim 4, Goddard teaches a device as in claim 1, further comprising a common operating environment image stored on the mass storage device and distributed storage files of the client systems (Col. 3, L. 42-65; and Col. 4, L. 19-67; and Col. 5, L. 34 – Col. 6, L. 12).
8. Regarding claim 6, Goddard teaches a device as in claim 1, wherein the mass storage controller is a hardware card mounted within a network server (Inherently, a network connection between the server and clients must have a network card which is mounted within the server) (Col. 3, L. 42-65; and Col. 4, L. 19-67; and Col. 7, L. 41-55).
9. Regarding claim 7, Goddard teaches a device as in claim 1, wherein the mass storage device is a hard drive that is coupled to the mass storage controller (Col. 4, L. 19-67; and Col. 6, L. 59 – Col. 7, L. 55).

10. Regarding claim 8, Goddard teaches a device as in claim 1, wherein the mass storage device stores parity data for the networked storage array (Col. 4, L. 19-67; and Col. 6, L. 27-52).

11. Regarding claim 9, Goddard teaches a device as in claim 1, wherein the distributed storage file of the client mass storage, which contains the distributed data, is inaccessible to a user of the client system (Col. 5, L. 57-64).

12. Regarding claim 12, Goddard teaches a device for storing distributed data in a networked storage array, comprising:

a mass storage controller associated with a network (ex. a controller in the server or maybe a proprietary service is provided by an application over the network) (Col. 3, L. 42-65; and Col. 4, L. 19-67; and Col. 6, L. 59-67; and Col. 7, L. 41-55);

a plurality of mass storage devices that are controlled by the mass storage controller, wherein each mass storage device includes a portion of the distributed data (ex. a plurality mass storage device are storage 102, 114, 116, etc.) (Col. 3, L. 42-65; and Col. 4, L. 19-67; and Col. 5, L. 34 - Col. 6, L. 2; and L. 59-67; and Col. 7, L. 41-55; figure 1); and

a plurality of client systems that communicate with the mass storage controller, each having a client mass storage device, including a distributed storage file configured to store parity data (Col. 3, L. 42-65; and Col. 4, L. 19-67; and Col. 5, L. 34 - Col. 6, L. 12, and L. 27-67; and Col. 7, L. 41-55).

13. Regarding claim 14, Goddard teaches a device in accordance with claim 12, wherein the client mass storage device is a hard drive and the parity data is stored on a portion of the client's hard drive that is unused by the client system's primary data (Col. 4, L. 19-67; and Col. 6, L. 27-52).

14. Regarding claim 18, Goddard teaches a device for storing distributed data in a networked storage array, comprising:

a mass storage controller associated with a network (ex. a controller in the server or maybe a proprietary service is provided by an application over the network) (Col. 3, L. 42-65; and Col. 4, L. 19-67; and Col. 6, L. 59-67; and Col. 7, L. 41-55);

a plurality of mass storage devices that are controlled by the mass storage controller, wherein the mass storage devices each include a portion of the distributed data (ex. a mass storage device is the server application storage 212) (Col. 3, L. 42-65; and Col. 4, L. 19-67; and Col. 5, L. 34 - Col. 6, L. 2; and L. 59-67; and Col. 7, L. 41-55); and

a plurality of client systems in communication with the mass storage controller, each having at least one client mass storage with a distributed storage file, wherein distributed data that is written to the mass storage devices through the mass storage controller is mirrored to the distributed storage file on the client mass storage (Col. 3, L. 42-65; and Col. 4, L. 19-67; and Col. 5, L. 34 - Col. 6, L. 12; and L. 59-67; and Col. 7, L. 41-55; figure 2).

15. Regarding claim 20, Goddard teaches a device as in claim 18, wherein the client mass storage used by the respective client systems are selected from the group of mass storage devices consisting of hard drives, flash memory, and rewritable optical drives (Col. 4, L. 19-67; and Col. 7, L. 24-42; and Col. 8, L. 18-50).

16. Claims 15,16,17,19,25 are a corresponding of claims 10,4,5,9,1. Therefore, they are rejected under the same rationale.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 5 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goddard (US 6,883,110 B1) as applied to claim 1 above, and further in view of Murphrey et al. (Murphrey) (US 6,735,692 B1).

18. Regarding claim 5, Goddard teaches the common operating environment image, which is stored on the client mass storage and mass storage device systems (Col. 3, L. 42-65; and Col. 4, L. 19-67; and Col. 5, L. 34 – Col. 6, L. 12).

Goddard fails to teach image assembly and loading logic configured to assemble and install the common operating environment image, and also on a



target client that calls for a new installation of the common operating environment image. However, Murphrey, in the same field of endeavor, teaches configuration for assemble and install the common operating environment image, and on a target client that calls for a new installation of the common operating environment image (ex: loading is equivalent to installation) (Col. 1, L. 46-60; and Col. 2, L. 49-67).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Murphrey's teachings of configuration for assemble and install the common operating environment image, and on a target client that calls for a new installation of the common operating environment image, with the teachings of Goddard in the system and method for providing a data backup of a server on client systems in a network, for the purpose of providing a data backup of a server on client systems in a network, and maintaining the advantages of a remote boot.

19. Regarding claim 23, Goddard teaches a method for backup a common operating environment from a distributed storage array on a network, the method comprising the steps of:

dividing a common operating environment image into a plurality of image segments, wherein the common operating environment image includes an operating system and applications (Col. 4, L. 19-67; and Col. 5, L. 63 – Col. 6, L. 28);

allocating a distributed storage file in a mass storage on each of a plurality of client systems where image segments can reside (Col. 4, L. 19-67; and Col. 5, L. 63 – Col. 6, L. 28);

storing the image segments in the distributed storage files of the client systems as directed by a storage array controller (Col. 4, L. 19-67; and Col. 5, L. 63 – Col. 6, L. 28; and L. 59 – Col. 7, L. 55); and

Goddard fails to teach adding a target client to the network that calls for a common operating environment and installing the common operating environment image onto the target client from the image segments in the distributed storage files. However, Murphrey, in the same field of endeavor, teaches adding a target client to the network that calls for a common operating environment and installing the common operating environment image onto the target client from the image segments in the distributed storage files (ex: loading is equivalent to installation) (Col. 1, L. 46-60; and Col. 2, L. 49-67).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Murphrey's teachings of adding a target client to the network that calls for a common operating environment and installing the common operating environment image onto the target client from the image segments in the distributed storage files, with the teachings of Goddard in the system and method for providing a data backup of a server on client systems in a network, for the purpose of providing a data backup

of a server on client systems in a network, and maintaining the advantages of a remote boot.

20. Regarding claim 24, Goddard teaches the step of gathering at least a part of the common operating environment image from the image segments in the distributed storage files (Col. 5, L. 63 – Col. 6, L. 28).

Goddard fails to teach the installation of the common operating environment. However, Murphrey, in the same field of endeavor, teaches the installation of the common operating environment (ex: loading is equivalent to installation) (Col. 1, L. 46-60; and Col. 2, L. 49-67).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Murphrey's teachings of the installation of the common operating environment, with the teachings of Goddard in the system and method for providing a data backup of a server on client systems in a network, for the purpose of providing a data backup of a server on client systems in a network, and maintaining the advantages of a remote boot.

21. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goddard (US 6,883,110 B1) as applied to claim 1 above, and further in view of Squibb (US 6,301,677 B1).
22. Regarding claim 10, Goddard teaches the distributed storage file in the client mass storage is inaccessible to a user of the client system (Col. 5, L. 57-64).

Goddard fails to teach the distributed storage file in the client mass storage is hidden from a user. However, Squibb, in the same field of endeavor, teaches the distributed storage file in the storage is hidden from a user (Col. 13, L. 16 - Col. 14, L. 17).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Squibb's teachings of the distributed storage file in the storage is hidden from a user, with the teachings of Goddard in the system and method for providing a data backup of a server on client systems in a network, for the purpose of providing a data backup of a server on client systems in a network, and protecting of current data in the storage.

23. Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goddard (US 6,883,110 B1) as applied to claims 1 and 12 above, and further in view of Anderson (US 6,442,649 B1).

24. Regarding claim 11, Goddard teaches the client mass storage contains large amounts of storage space (Col. 3, L. 65-Col. 4, L. 15).

Goddard fails to teach the distributed storage file of the client mass storage is dynamically resizable. However, Anderson, in the same field of endeavor, teaches the distributed storage file of the mass storage is dynamically resizable (Col. 2, L. 30-35; and Col. 4, L. 51-65).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Anderson's teachings of the distributed storage file of the mass storage is dynamically resizable, with the teachings of Goddard in the system and method for providing a data backup of a server on client systems in a network, for the purpose of providing a data backup of a server on client systems in a network, and advantage of facilitating an incremental increase in the size of the storage array.

25. Regarding claim 13, Goddard teaches the distributed storage file on the client systems each include a portion of the parity data (Col. 4, L. 19-67; and Col. 6, L. 27-52).

Goddard fails to teach the distributed storage file on the client systems each include a portion of the parity data that is inversely proportional in size to the number of client mass storage devices available. However, Anderson, in the same field of endeavor, teaches the distributed storage file on the system includes a portion of the parity data that is inversely proportional in size to the number of mass storage devices available (Col. 6, L. 65 – Col. 7, L. 8).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Anderson's teachings of the distributed storage file on the system includes a portion of the parity data that is inversely proportional in size to the number of mass storage devices available, with the teachings of Goddard in the system and method for providing a data

backup of a server on client systems in a network, for the purpose of providing a data backup of a server on client systems in a network, and advantage of facilitating an incremental increase in the size of the storage array.

26. Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goddard (US 6,883,110 B1) as applied to claim 18 above, and further in view of Ohran (US 2001/0037371 A1).

27. Regarding claim 21, Goddard teaches the client mass storage can be accessed by the client system (Col. 4, L. 19-Col. 5, L. 13; and Col. 5, L. 64-Col. 6, L. 27).

Goddard fails to teach teaches the client mass storage can be accessed by the client system when the mass storage controller is unavailable through the network. However, Ohran, in the same field of endeavor, teaches the mass storage can be accessed by the system when the mass storage controller is unavailable through the network (ex. the server mass storage can be accessed by the server system is equivalent to the client mass storage can be accessed by the client system. The function is similar) (page 2, paragraph [0018], [0028]).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Ohran's teachings of the mass storage can be accessed by the system when the mass storage controller is unavailable through the network, with the teachings of Goddard in the system and method for providing a data backup of a server on client systems in a

network, for the purpose of providing a data backup of a server on client systems in a network.

28. Regarding claim 22, Goddard teaches the distributed data is written to the mass storage devices through the mass storage controller is mirrored to the distributed storage file on the client mass storage (Col. 3, L. 42-65; and Col. 4, L. 19-67; and Col. 5, L. 34 – Col. 6, L.12; and L. 59-67; and Col. 7, L. 41-55; figure 2).

Goddard fails to teach teaches a mirroring module and a mirror link where the minor link allows the mirroring module to access the mirroring module of other client systems when the mass storage controller is unavailable through the network. However, Ohran, in the same field of endeavor, teaches a mirroring module and a mirror link where the minor link allows the mirroring module to access the mirroring module of other client systems when the mass storage controller is unavailable through the network (ex. the minor link allows the mirroring module to access the mirroring module of other server systems is equivalent to the minor link allows the mirroring module to access the mirroring module of other client systems. The function is similar) (page 2, paragraph [0028]).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Ohran's teachings of a mirroring module and a mirror link where the minor link allows the mirroring module to access the mirroring module of other systems when the mass storage

Art Unit: 2145

controller is unavailable through the network, with the teachings of Goddard in the system and method for providing a data backup of a server on client systems in a network, for the purpose of providing a data backup of a server on client systems in a network.

❖ The prior arts are not relied on in the rejection:

- Shannon (5,852,713)
- Cabrera et al. (US 6,535,998 B1)
- Bemis (5,487,160)
- Kihara et al. (US 6,625,625 B1)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH-CHAU N. NGUYEN whose telephone number is (571)272-4242. The examiner can normally be reached on Monday-Friday from 8:00am - 4:30pm.

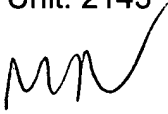
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, VALENCIA M. WALLACE can be reached on (571)272-6159. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.




Art Unit: 2145

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner: Minh-Chau Nguyen  
Art Unit: 2145



  
VALENCIA MARTIN-WALLACE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700